

Medical Science

pISSN 2321-7359; eISSN 2321-7367

To Cite:

Aljahdali IA, Alharbi A, Alalyani A, Alhadhrami J, Alotaibi R, Alduayah S, Bamerdah S, Shatla MM. Perception and health care seeking towards dysmenorrhea among female students at Umm Al-Qura University, Makkah, Saudi Arabia. *Medical Science*, 2022, 26, ms145e2090.
doi: <https://doi.org/10.54905/disssi/v26i122/ms145e2090>

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Peer-Review History

Received: 31 January 2022

Reviewed & Revised: 02/February/2022 to 20/April/2022

Accepted: 20 April 2022

Published: 23 April 2022

Peer-review Method

External peer-review was done through double-blind method.

URL: <https://www.discoveryjournals.org/medicalscience>



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Perception and health care seeking towards dysmenorrhea among female students at Umm Al-Qura University, Makkah, Saudi Arabia

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ABSTRACT

Background: Some women experience dysmenorrhea (painful cramps during menstruation) which can significantly affect their daily activities. We purposed to assess the perception and health care seeking towards dysmenorrhea among students of Umm al-Qura University in Makkah. **Methods:** This cross section study directed to Umm Al-Qura undergraduate female students aging 18 to 30 years was conducted during the period from September to October 2021. We collected data using online questionnaire, which covered student's socio-demographic data, dysmenorrhea clinical data, student's perception towards dysmenorrhea and healthcare seeking. **Results:** Exact of 412 participants with mean age of 20.5 ± 1.7 years old were included. Of them, exact 373 (90.5%) experienced dysmenorrhea during their menstrual cycle. The dysmenorrhea was severe among 167 (44.8%), moderate among 176 (47.2%), and mild among 30 (8.0%). The frequently reported self-care practices towards dysmenorrhea were home remedies (44.2%), followed by ignoring the pain (23.6%), and self-medication (23.3%). Only 54 (14.55%) students consulted a health-care profession for dysmenorrhea. A total of 198 (53.1%) students had good perception level towards dysmenorrhea. **Conclusions:** High dysmenorrhea prevalence was noted. About half of participants showed good perception level towards dysmenorrhea except for being undesirable and bothersome pain. The pain was moderate to severe among the majority of females contributing to social withdrawal, lack of concentration, and poor academic performance.

Keywords: Dysmenorrhea, perception, health care seeking.

1. INTRODUCTION

Dysmenorrhea denotes severe painful lower abdominal cramping pain frequently followed by sweating, headache, tachycardia, and tremor

experienced immediately prior to or during menstruation (Poureslami & Osati-Ashtiani, 2002). It is a commonly described gynaecological disorder among adolescent females which mostly adversely affects their life quality (Bernardi et al., 2017; Alkhamis et al., 2021). The pain is described as “a painful sensory and emotional experience linked to or defined in terms of tissue damage, whether actual or potential” (Kumar et al., 2016). Based on pathophysiology, dysmenorrhea is categorized as primary dysmenorrhea (menstrual pain with no associated organic disease) and secondary dysmenorrhea (menstrual pain associated with primary pelvic disorder) (ACOG Practice Bulletin, 2004). Primary dysmenorrhea has no well-established cause. The leading cause has been recognized on the augmented making of uterine prostaglandins with augmented uterine tone and contractions (Iacovides et al., 2015).

Dysmenorrhea is the main cause of short-term school/work absenteeism (Fernández-Martínez et al., 2020). Among adolescents, many studies reported adverse effects on academic and social performances besides self-medication of these recurrent pains (De Sanctis et al., 2015). Also, low intention to ask for medical care for this chronic problem is reported (Hillard, 2006), possibly owing to the dysmenorrhea perception of being a normal condition rather than a disorder (Chen et al., 2018). Dysmenorrhea prevalence varies substantially across different demographics and ethnic groupings, many studies have investigated dysmenorrhea prevalence with different severity among females university students in Saudi Arabia between 2014- 2020 it was 100% in Majmaah university (Shaji, 2014), 70.6% King Khalid university (Harel, 2008), 56% Dammam university (Al-Dabal et al., 2014), 80.1% King Saud university (Hashim et al., 2020), 88% Jouf university (Abdel-Salam et al., 2018), studies from other countries have shown a prevalence of 74.8% in Egypt 72.4% in India 70% in Italy 80% in Australia (American Academy of Pediatrics, Committee on Adolescence et al., 2006). Although the high prevalence of primary dysmenorrhea, affected students rarely seek health advice in which they usually obtain their family and friend's advice (Shaji, 2014; Al-Dabal et al., 2014).

Hence, some others have no opportunity to know regarding dysmenorrhea possible treatment in Majmaah city (Shaji, 2014). There is a shortage of studies concerning the knowledge and attitudes of female students of Umm Al-Qura University (UQU), Makkah, Saudi Arabia towards dysmenorrhea. This study is purposed to assess the perception and health care seeking towards dysmenorrhea among students of Umm al-Qura University in Makkah city.

2. METHODOLOGY

A cross-sectional study directed to Umm Al-Qura undergraduate female students aging 18 - 30 years was performed in the period from September to October 2021. The participants were selected via random sampling techniques. Female students who use oral contraceptives, and female students with known pathological pelvic diseases were not included in the study. Participation was totally voluntary, and an informed consent was obtained from the study participants after explaining the study objectives and that their information will be kept anonyms and utilised for research purposes only. Data were gathered using online pre-structured questionnaire. The questionnaire was initiated upon literature review of related articles and expert's consultation. A panel of 3 experts at UQU reviewed the constructed questionnaire independently to assess content validity with all suggested modifications were applied after consensus. A pilot study including 30 students was done to assess perception related item's reliability that was 0.76 and then excluded from the results. The questionnaire consists of four parts. First part covered student's socio-demographic data including age, study filed, age of menarche marital status, mother education, father education, and history of dysmenorrhea among family members. Second part covered clinical data of dysmenorrhea including severity of pain, affects dysmenorrhea on daily activity, premenstrual symptoms and learning source of how to act with dysmenorrhea. Third part covered student's perception towards dysmenorrhea through nine questions using 5 points Likert-scale. Last part covered students' healthcare-seeking behaviour and management practices regarding dysmenorrhea with barriers of not seeking medical consultation. Final questionnaire was uploaded online using social media platforms and then responses for eligible students were received consecutively. Ethical approval was taken from Umm Al-Qura University Institutional Research Board before the commencement of the study.

Statistical analysis

Data was revised, coded, and analysed using IBM SPSS statistical software version 22 (SPSS, Inc. Chicago, IL) after collection. For statistical analysis, two tailed tests were used, and P value < 0.05 was statistically significant. Regarding perception, the overall score for the nine items was obtained through summing all items discrete scores with maximum score of 45 points. Female students who had overall score less than 60% of the maximum (26 points or less) were considered to have poor perception level. Participants who had overall score of 60% or more (28-45 points) were considered to have good perception level. Descriptive analysis in the form of number and percent was done for variables including female's demographic data, dysmenorrhea and related clinical data,

perception items, and health seeking behaviour and practice. Participants' dysmenorrhea experience and perception of dysmenorrhea was assessed using cross tabulation based on their bio-demographic data. For small frequency distributions, Pearson chi-square test and exact probability test were employed to assess the relation.

3. RESULTS

Exact of 412 female students of Umm al-Qura University in Makkah city fulfilling the inclusion criteria responded to the study questionnaire. Student's ages ranged from 18-30 years with mean age of 20.5 ± 1.7 years old. Exact of 198 (48.1%) students were from medical college, 124 (30.1%) from scientific college, and 90 (21.8%) from literacy college. A total of 395 (95.9%) students were not married. The most reported mother educational level was university and above (44.2%) and father educational level was also university and above (49%). Exact of 322 (78.2%) female students had the menarche started after the 12 years age, and 154 (37.4%) had history of dysmenorrhea among family members. Dysmenorrhea prevalence among female students of UQU exact of 373 (90.5%) experienced dysmenorrhea during their menstrual cycle while 39 (9.5%) did not (Figure 1).

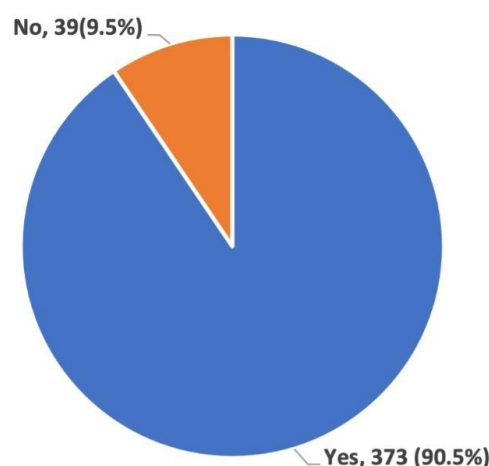


Figure 1 Dysmenorrhea prevalence among female university students of Umm al-Qura University

Table 1 shows the distribution of dysmenorrhea among study students by their bio-demographic data. Dysmenorrhea was statistically significantly higher among married female students than among non-married group (100% vs. 90.1%, respectively; $P=.048$). Also, 96.1% of participants with history of dysmenorrhea among family members experienced pain during their period compared to 87.2% of others without family history ($P=.003$). Other factors including student's age, parent's education, and age of menarche were insignificantly associated with dysmenorrhea.

Table 1 Distribution of dysmenorrhea among study students by their bio-demographic data

Bio-demographic data	Total		Dysmenorrhea				p-value
			Yes		No		
	No	%	No	%	No	%	
Age in years							
18-19	113	27.4%	104	92.0%	9	8.0%	.419
20-22	259	62.9%	235	90.7%	24	9.3%	
23+	40	9.7%	34	85.0%	6	15.0%	
Study field							
Medical field	198	48.1%	179	90.4%	19	9.6%	.271

Scientific field	124	30.1%	109	87.9%	15	12.1%	
Literacy field	90	21.8%	85	94.4%	5	5.6%	
Marital status							
Not married	395	95.9%	356	90.1%	39	9.9%	.048*§
Married	17	4.1%	17	100.0%	0	0.0%	
Mother education							
Below secondary	148	35.9%	133	89.9%	15	10.1%	.913
Secondary level	82	19.9%	74	90.2%	8	9.8%	
University / above	182	44.2%	166	91.2%	16	8.8%	
Father education							
Below secondary	104	25.2%	93	89.4%	11	10.6%	.874
Secondary level	106	25.7%	97	91.5%	9	8.5%	
University / above	202	49.0%	183	90.6%	19	9.4%	
Age at menarche							
< 12 years	90	21.8%	81	90.0%	9	10.0%	.845
> 12 years	322	78.2%	292	90.7%	30	9.3%	
Family history of dysmenorrhea (painful period)							
Yes	154	37.4%	148	96.1%	6	3.9%	.003*
No	258	62.6%	225	87.2%	33	12.8%	
P: Pearson X ² test				§: Exact probability test			
* P < 0.05 (significant)							

Table 2 shows the prevalence and clinical data of dysmenorrhea among study students by their bio-demographic data. Dysmenorrhea prevalence among participants, exact of 373 (90.5%) experienced dysmenorrhea during their menstrual cycle while 39 (9.5%) did not. The dysmenorrhea pain is severe among 167 (44.8%), moderate among 176 (47.2%), and mild among 30 (8.0%). Regarding the influence of dysmenorrhea effect on daily activity, the most reported effects were social withdrawal 292 (78.3%), followed by poor concentration 232 (59.8%), decreased academic performance 211 (56.6%), absenteeism 159 (42.6%), and sleep and laziness 20 (5.4%), restriction in physical activity 10 (2.7%). The least reported is psychological distress 9 (2.4%) and headache 6 (1.6%) while 26 (7%) had no effect. As for the premenstrual symptoms, mood swinging was the most experienced among the study females 303 (81.2%), followed by feeling fatigued 263 (70.5%), tearfulness 215 (57.6%), anger 206 (55.2%), changes in appetite 186 (49.9%), headache 123 (33%) while 16 (4.3%) had no symptoms. About how to deal with dysmenorrhea, mothers were the most reported source (60.3%), 43.7% reported for mass media, friends were reported among 30%, and 20.1% selected care staff.

Table 2 Prevalence and clinical data of dysmenorrhea among study students by their bio-demographic data

Clinical data of dysmenorrhea	No (373)	%
The pain severity		
Mild	30	8.0%
Moderate	176	47.2%
Severe	167	44.8%

The effect of dysmenorrhea on daily activities		
Nothing	26	7.0%
Social withdrawal	292	78.3%
Poor concentration	223	59.8%
Decreased academic performance	211	56.6%
Absenteeism	159	42.6%
Sleep and laziness	20	5.4%
Restriction in physical activities	10	2.7%
Psychological distress	9	2.4%
Headache	6	1.6%
Premenstrual symptoms		
None	16	4.3%
Mood swinging	303	81.2%
Feeling fatigued	263	70.5%
Tearfulness	215	57.6%
Anger	206	55.2%
Changes in appetite	186	49.9%
Headache	123	33.0%
Body aches	34	9.1%
Laziness	8	2.1%
From where you are learning how to deal with dysmenorrhea?		
No source	53	14.2%
Mothers	225	60.3%
Mass media	163	43.7%
Friends	112	30.0%
Health care staff	75	20.1%

Table 3 shows the perception towards dysmenorrhea among female students of UQU. Exact of 66% of the participants admitted that menstrual pain could be natural, 55.5% reported that exercise reduces menstrual pain, and 50.9% agreed that menstrual pain is common among virgins. However, 94.9% agreed that menstrual pain could be bothersome, 89.8% reported that menstrual pain could be undesirable, 86.3% told that one may not be able to concentrate when having menstrual pain, and 29.2% agreed that menstrual pain could be caused by a concomitant disease while only 3.5% agreed that abortion reduces menstrual pain. The mean perception score was 26.5 ± 3.1 out of 45 points (58.9%). Overall perception level 198 (53.1%) students had good perception level towards dysmenorrhea while 175 (46.9%) had poor perception level.

Table 3 Perception towards dysmenorrhea among female students of UQU in Makkah city

Perception items	Disagree		Neutral		Agree	
	No	%	No	%	No	%
Menstrual pain could be natural	60	16.1%	67	18.0%	246	66.0%
Menstrual pain could be undesirable	13	3.5%	25	6.7%	335	89.8%
Menstrual pain could be bothersome	8	2.1%	11	2.9%	354	94.9%
Menstrual pain could be produced by an underlying	117	31.4%	147	39.4%	109	29.2%

disease						
Menstrual pain is a penalty for eating sugary things	172	46.1%	144	38.6%	57	15.3%
Abortion reduces menstrual pain	141	37.8%	219	58.7%	13	3.5%
Exercise reduces menstrual pain	60	16.1%	106	28.4%	207	55.5%
One may be incapable to concentrate when having menstrual pain	25	6.7%	26	7.0%	322	86.3%
Menstrual pain is common among virgins	44	11.8%	139	37.3%	190	50.9%
Overall score (Mean \pm SD)	26.5 \pm 3.1					

Figure 2 shows the overall perception level of study female students towards dysmenorrhea, UQU, Makkah city. Exact 198 (53.1%) students had good perception level towards dysmenorrhea while 175 (46.9%) had poor perception level.

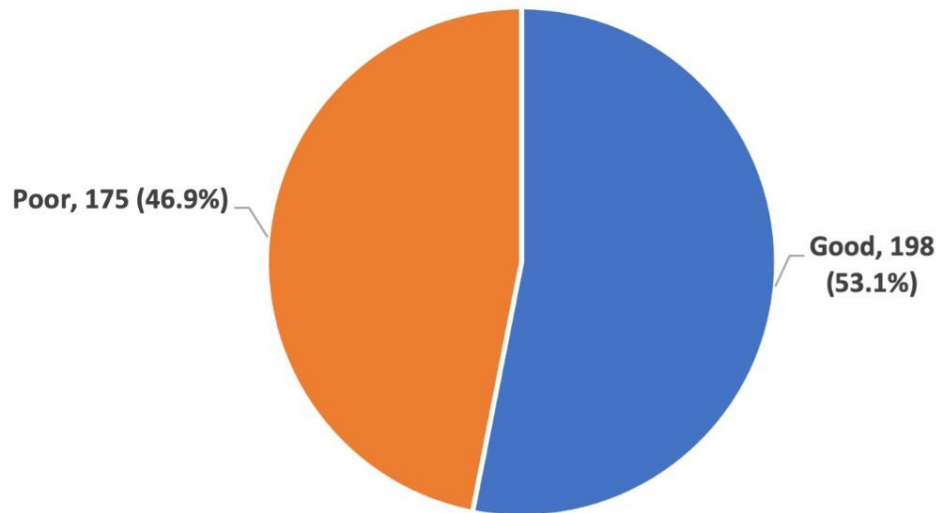


Figure 2 overall perception levels of study female students towards dysmenorrhea, UQU, Makkah city

Table 4 shows the healthcare-seeking behaviour and management practices among participants of the current study. The most reported self-care practice towards dysmenorrhea among study females were home remedies (44.2%), followed by ignoring the pain (23.6%), self-medication (23.3%), and physical exercises (3.2%) while only (2.7%) had hot drinks. 78.8% students used medication to alleviate menstrual pain. Among those, (70.7%) used Panadol/Paracetamol, (67.3%) received herbal drugs, (17.3%) had Ibuprofen, and 13.6% used Buscopan while only (0.7%) used Felvin. Self-medication was the most reported source of drugs (46.4%), followed by mothers (31.1%), doctors / nurse (9.6%), and pharmacist (8.2%) while (4.8%) had drugs from sister or friend. Only (14.55%) students consulted a health-care profession for dysmenorrhea. Among students who did not, thinking that dysmenorrhea is normal symptom was the most reported cause of not seeking for medial consultation followed by preferring to self-manage of symptoms (17.3%), usual habit of not seeking for medical care (15.6%), and symptoms are tolerable (7.5%) while only (2.9%) feel embarrassed or apprehensive about seeking care.

Table 4 Healthcare-seeking behaviour and management practices among female students of Umm al-Qura University in Makkah city

Healthcare-Seeking Behaviour	No (373)	%
What is your usual self-care practice towards dysmenorrhea?		
Home remedies	165	44.2%
Ignore the pain	88	23.6%
Self-medicate	87	23.3%
Physical exercise	12	3.2%
Consult a healthcare provider	11	2.9%

Hot drinks	10	2.7%
Did you use any medication to relieve menstrual pain?		
Yes	294	78.8%
No	79	21.2%
What is the drug used for alleviate menstrual pain		
Panadol/paracetamol	208	70.7%
Herbal drugs	198	67.3%
Ibuprofen	51	17.3%
Buscopan	40	13.6%
Antibiotics	17	5.8%
Felvin	2	.7%
Source of medication		
Self	136	46.4%
Mothers	91	31.1%
Doctor/Nurse	28	9.6%
Pharmacist	24	8.2%
Friends/ sister	14	4.8%
Have you ever consulted a health-care profession for dysmenorrhea?		
Yes	54	14.5%
No	319	85.5%
If you answered 'no', what is the reason?		
Because I think this is a normal symptom	151	49.2%
I prefer to manage symptoms myself	53	17.3%
Generally, I don't usually seek any health care	48	15.6%
Symptoms are tolerable	23	7.5%
I'm not unaware of therapeutic possibilities	13	4.2%
Health-care personnel would not provide help	10	3.3%
I Feel embarrassed or apprehensive about seeking care	9	2.9%

Table 5 shows the distribution of student's perception towards dysmenorrhea by their bio-demographic data. Age of menarche constituted the only factor significantly associated with student's perception towards dysmenorrhea as 65.4% of students who started menarche before the 12th year of age had good perception versus 49.7% of others who start menstruation after the 12th year of age ($P=.012$). Other factors were not associated significantly with the current study student's perception level.

Table 5 Distribution of students' perception towards dysmenorrhea by their bio-demographic data

Bio-demographic data	Perception level				p-value
	Poor		Good		
	No	%	No	%	
Age in years					
18-19	54	51.9%	50	48.1%	.468
20-22	105	44.7%	130	55.3%	

23+	16	47.1%	18	52.9%	
Study field					
Medical field	87	48.6%	92	51.4%	.624
Scientific field	52	47.7%	57	52.3%	
Literacy field	36	42.4%	49	57.6%	
Marital status					
Not married	167	46.9%	189	53.1%	.990
Married	8	47.1%	9	52.9%	
Mother education					
Below secondary	64	48.1%	69	51.9%	.323
Secondary level	29	39.2%	45	60.8%	
University / above	82	49.4%	84	50.6%	
Father education					
Below secondary	41	44.1%	52	55.9%	.441
Secondary level	42	43.3%	55	56.7%	
University / above	92	50.3%	91	49.7%	
Age at menarche					
< 12 years	28	34.6%	53	65.4%	.012*
> 12 years	147	50.3%	145	49.7%	
Dysmenorrhea among family members (painful period)					
Yes	70	47.3%	78	52.7%	.905
No	105	46.7%	120	53.3%	
If yes, what is the pain severity?					
Mild	18	60.0%	12	40.0%	.200
Moderate	76	43.2%	100	56.8%	
Severe	81	48.5%	86	51.5%	

4. DISCUSSION

Menstruation is natural during females' reproductive years (Baghianimoghadam et al., 2012). Majority of women experience a degree of discomfort, pain and distress during menstruation days with reported substantial effect on their daily life activities including home duties or at workplace (Aziato et al., 2014). Dysmenorrhea usually featured by pain with lower abdominal cramps and sometimes associated with headache, dizziness, diarrhoea, nausea, vomiting, backache, breast tenderness, and lower limb pain (Chen & Chen, 2005). These are the commonest reasons for young women to visit a gynaecologist (El-Gilany et al., 2005). The current study purposed to assess the perception and health care seeking towards dysmenorrhea among students of UQU in Makkah city.

The present study disclosed that vast majority of the participants complained of dysmenorrhea (90.5%) which is very high prevalence that probably due to subjective assessment of related complaint among the study group. Several studies measured with diverse severity among university students. In Saudi Arabia, a 100% prevalence was estimated in Majmaah university which is higher compared to the current study prevalence (Shaji, 2014), while other studies reported lower prevalence such as 70.6% in King Khalid university (Harel, 2008), 56% Dammam university (Al-Dabal et al., 2014), 80.1% King Saud university (Hashim et al., 2020),

88% Jof university (Abdel-Salam et al., 2018), studies from other countries have shown a prevalence of 74.8% in Egypt 72.4% in India 70% in Italy, and 80% in Australia (American Academy of Pediatrics, Committee on Adolescence et al., 2006).

Dysmenorrhea was more frequent among married than among single students and among female students with dysmenorrhea history among the family. Ju et al., (2014) led a comprehensive review for all relevant studies to precisely assess dysmenorrhea prevalence and related risk factors. Dysmenorrhea prevalence ranged from 16 % to 91 %, with severe pain reported in as low as 2%, to as high as 29% of those surveyed. Women's age, parity, and use of oral contraceptives were negatively related to dysmenorrhea. Dysmenorrhea history among the family markedly raised its risk, with estimated odds ratios ranged from 3.8 to 20.7 which is concordant with the current study finding.

Regarding associated clinical presentations, this study disclosed that nearly half of the participants experience severe pain during their menstruation which is concordant with many reported literature findings (Iacovides et al., 2015). Also, most of females reported for mood swinging with feeling fatigued before menstruation time. Tearfulness with feeling anger was also reported among nearly 50% of the participants. Previous studies revealed that dysmenorrhea had negative influence on daily activities, academic achievement, with associated poor sleep, hygiene, and have negative mood effects resulting in anxiety and depression (Bettendorf et al., 2008). Given the augmented need for medical treatment and accompanying medical costs, and lower women's efficacy in day-to-day work, dysmenorrhea has historically been thought to have socioeconomic consequences (Ju et al., 2014).

The current study results confirmed these estimated effects where most students stated social withdrawal due to dysmenorrhea and more than half of the students reported for poor concentration and low academic performance while about 40% had absenteeism due to associated symptoms. As for perception level of study female students towards dysmenorrhea, most students had good perception level. In more details, about two thirds of the students agreed that menstrual pain could be natural, while half of them reported that exercise reduces menstrual pain, and that dysmenorrhea is common among virgins. Moreover, vast majority of the study females agreed that menstrual pain could be bothersome, and think that menstrual pain could be undesirable, effect on ability to concentrate when having menstrual pain was stated by most of the study students. The mean perception score was 26.5 ± 3.1 out of 45 points (58.9%).

Oluwole et al., (2020) found similar results in Nigeria, where roughly 25.2% of secondary school students had strong knowledge and 49.8% had good value of dysmenorrhea perception as low as 10% have ever sought medical advice for dysmenorrhea. Only 6.3 % students in Iran had a good knowledge of menstrual pain (Baghianimoghadam et al., 2012). In addition, according to a survey conducted in Bangladesh, 88 % had poor menstruation knowledge (Parvin et al., 2016). On the contrary, a mistaken perception regarding dysmenorrhea has been described by former studies (Egenti et al., 2016). A former study had revealed that adolescents with poor menstruation perception have higher morbidity (Houston et al., 2006).

As for healthcare-seeking behaviour and management practices among participants, the study presented that the most reported self-care practice towards dysmenorrhea were home remedies, ignoring the pain, and self-medication. Most of participants used pain relieve medications mainly paracetamol and herbal drugs. Consulting a health-care profession for dysmenorrhea was reported among only 14% of the students. Believing that pain is a normal symptom was the main barriers to seek for medical consultation. A study in Ibadan, Nigeria showed that 3.2% of students suffering with dysmenorrhea seek for medical consultation (Farotimi et al., 2015). Though, another study reported that 16% of adolescent girls sought medical advice regarding dysmenorrhea (Nwankwo et al., 2010).

An Australian study reported that 14.8% sought medical treatment (Wong et al., 2011). This study is the first assess the perception and health care seeking towards dysmenorrhea among students of UQU in Makkah city. Our study limitation is that we used an online questionnaire which may affect the result's generalizability and led to recall bias. Secondary dysmenorrhea could not be excluded because the participants were not clinically evaluated.

5. CONCLUSIONS AND RECOMMENDATIONS

The current study showed that most of female students experienced dysmenorrhea during their menses mainly married students and those with family history of dysmenorrhea. The pain was moderate to severe among most of the females causing social withdrawal and lack of concentration and poor academic performance. Regarding female's perception, about fifty percent of the students showed good perception level except for being undesirable and bothersome pain. More than three out of each four females received medication due associated pain especially home remedies. Thinking that dysmenorrhea associated symptom as natural experience rather than being disorder was the main barriers against seeking medical advice. Health education sessions with more effort by health care staff should be applied to improve women awareness regarding the disorder nature and associated effect to help them tolerating pain and learn ways to deal with especially it is recurrent chronic experience.

Author contribution

Imad Ali Alhajdali: study conception, and contribute to supervision.

Ruba Alotaibi: literature review and contribute to writing/ manuscript preparation: writing the initial draft, data collection, supervision, manuscript revision.

Sarah Alduayah: contribute to literature review and writing/ manuscript preparation: writing the initial draft, data collection, formal analysis, manuscript revision.

Shahad Bamerdah: contribute to literature review and writing/ manuscript preparation: visualization and data presentation, data collection, manuscript revision.

Afnan Alalyani: contribute to writing/ manuscript preparation: critical review and revision, data collection, manuscript revision.

Alaa Alharbi: contribute to literature review and writing/ manuscript preparation: critical review and revision, data collection, manuscript revision.

Jana Alhadhrami: contribute to literature review and writing/ manuscript preparation.

Mokhtar Mahfouz Shatla: study conception, supervision, project administration and revision.

Acknowledgements

The authors would like to thank the data collectors for their great help and the participants who answered our questionnaire.

Consent to participate

Informed consent was obtained from all the participants.

Ethical approval

The study was approved by the Medical Ethics Committee of Umm Al-Qura University, Saudi Arabia, ethical approval number: (HAPO-02-K-012-2021-09-758). An electronic informed consent was obtained from each participant to submit their answers and they can withdraw at any time.

Funding

This study has not received any external funding.

Conflicts of interest

The authors declare that there are no conflicts of interests.

Data and materials availability

All data associated with this study are present in the paper.

REFERENCES AND NOTES

1. Abdel-Salam DM, Alnuman RW, Alrwuaili RM, Alrwuaili GA, Alrwuaili EM. Epidemiological aspects of dysmenorrhea among female students at Jouf University, Saudi Arabia. *Middle East Fertil Soc J* 2018; 23(4):435-439.
2. ACOG Committee on Practice Bulletins--Gynecology. ACOG practice bulletin No. 51. Chronic pelvic pain. *Obstet Gynecol* 2004; 103(3):589-605.
3. Alkhamis F, Almqraq LAA, Alshayeb ZK, AL-Jaziri ZY. Prevalence of premenstrual syndrome among medical students in King Faisal University in Alahssa-Saudi Arabia. *Medical Science* 2021;25(114):1971-1983
4. American Academy of Pediatrics Committee on Adolescence; American College of Obstetricians and Gynecologists Committee on Adolescent Health Care, Diaz A, Laufer MR, Breech LL. Menstruation in girls and adolescents: using the menstrual cycle as a vital sign. *Pediatrics* 2006; 118(5):2245-50.
5. Aziato L, Dedey F, Clegg-Lamptey JN. The experience of dysmenorrhoea among Ghanaian senior high and university students: pain characteristics and effects. *Reprod health* 2014; 11:58.
6. Badria KA, Manal RK, Latifa SA. Dysmenorrhea and associated risk factors among university students in eastern province of Saudi Arabia. *Middle East J* 2014; 12(1):25-35.
7. Baghianimoghadam MH, Mohammad Loo A, Falahzadeh H, Alavijeh MM. A survey about the prevalence of dysmenorrhea in female students of Shahid Sadoughi University of Medical Sciences and Their Knowledge, and Practice toward it. *J Community Health Res* 2012; 1(2):93-98.

8. Bernardi M, Lazzeri L, Perelli F, Reis FM, Petraglia F. Dysmenorrhea and related disorders. *F1000Res* 2017; 6:1645.
9. Bettendorf B, Shay S, Tu F. Dysmenorrhea: contemporary perspectives. *Obstet Gynecol Surv* 2008; 63(9):597-603.
10. Chen HM, Chen CH. Related factors and consequences of menstrual distress in adolescent girls with dysmenorrhea. *Kaohsiung J Med Sci* 2005; 21(3):121-7.
11. Chen XC, Carol S, Claire BD, Janet SC. Reasons women do not seek health care for dysmenorrhea. *J Clin Nurs* 2018; 27(1-2):e301-e308.
12. Egenti NB, Onuorah UC, Ebenebe UE, Adogu PO, Egwuatu CC. Perception of Dysmenorrhea and Its Relationship to School Activities among Senior Secondary School Students in Nnewi, Nigeria. *Int STD res rev* 2016; 4(2):1-8.
13. El-Gilany AH, Badawi K, El-Fedawy S. Epidemiology of dysmenorrhoea among adolescent students in Mansoura, Egypt. *E Mediterr Health J* 2005; 11(1-2):155-63.
14. Fernández-Martínez E, Onieva-Zafra MD, Abreu-Sánchez A, Fernández-Muñoz JJ, Parra-Fernández ML. Absenteeism during menstruation among nursing students in Spain. *Int J Environ Res Public Health* 2020; 17(1):53.
15. Hashim RT, Alkhalifah SS, Alsalman AA, Alfari DM, Alhussaini MA, Qasim RS, Shaik SA. Prevalence of primary dysmenorrhea and its effect on the quality of life amongst female medical students at King Saud University, Riyadh, Saudi Arabia. A cross-sectional study. *Saudi Med J* 2020; 41(3):283-289.
16. Helen SJ. Severity of primary dysmenorrhea and menstrual distress among university students in kingdom of Saudi Arabia. *Int J Health Sci* 2014; 4(11):209-215.
17. Iacovides S, Avidon I, Baker FC. What we know about primary dysmenorrhea today: a critical review. *Hum Reprod Update* 2015; 21(6):762-78.
18. Ju H, Jones M, Mishra G. The prevalence and risk factors of dysmenorrhea. *Epidemiol Rev* 2014; 36:104-13.
19. Kumar KH, Elavarasi P. Definition of pain and classification of pain disorders. *J Adv Clin Res Insights* 2016; 3(3):87-90.
20. Oluwole EO, Agha OO, Ogunyemi AO, Bakare OQ. Perception and healthcare seeking practices regarding dysmenorrhea among public secondary school students in Lagos, Nigeria. *BUMJ* 2020; 3(2):46.
21. Parvin N, Parvin B, Haque MM, Islam MS. Knowledge on Menstruation among Adolescent School Girls in A Selected Area of Dhaka City. *Chatt Maa Shi Hosp Med Coll J* 2016; 15(1):31-34.
22. Paula JA. Consultation with the specialist: dysmenorrhea. *Pediatr Rev* 2006; 27(2):64-71.
23. Poureslami M, Osati-Ashtiani F. Assessing knowledge, attitudes, and behavior of adolescent girls in suburban districts of Tehran about dysmenorrhea and menstrual hygiene. *J Int Women's Stud* 2002; 3(2):51-61.
24. Vincenzo DS, Ashraf S, Sergio B, Luigi B, Gianni B, Mauro B, Fabio B, Carlo DS, Giorgio T, Franco R, Egle P. Primary dysmenorrhea in adolescents: prevalence, impact and recent knowledge. *Pediatr Endocrinol Rev* 2015; 13(2):512-20.
25. Zeev H. Dysmenorrhea in adolescents. *Ann N Y Acad Sci* 2008; 11(35):185-95.